



ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER

HOUSTON, TEXAS

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NASA People



Dr. James C. Fletcher

Dr. Fletcher resigns

Dr. James C. Fletcher announced March 10 that he has submitted his resignation as NASA administrator, effective May 1.

Fletcher was appointed administrator of the agency on April 27, 1971. Since that time he has led the nation's space and aeronautics efforts from Apollo through the successful completions of the Skylab and Apollo-Soyuz programs and the nearly completed Landsat program.

Most recently, NASA accomplished the two widely acclaimed Viking landings on Mars and the initial tests of the first Space Shuttle Orbiter.

Fletcher plans to return to private life. Prior to joining NASA, he had been a research physicist, professor, businessman and university president.

pilot of Apollo 17 in 1972, has been named executive vice president of Western America Energy Corp. and director of marketing for WES-PAC Energy, the coal producing concern of WAEC. Headquarters is in Scottsdale, Ariz., where the Evans family will reside.

"I really appreciate the opportunity I've had to participate in this nation's space program, and I'd like to thank everyone involved for their help to me and in making the program a success," he said.

Evans was selected as a NASA astronaut in 1966. He logged 301 hours and 51 minutes in space during Apollo 17's mission to the moon, including a one-hour, six-minute "space walk." He was a member of the astronaut support crews for Apollos 7 and 11 and was backup command module pilot for Apollo 14 and the Apollo-Soyuz Test Project.

Evans retired from the Navy as a captain in May 1976, but remained in the astronaut corps where he has been responsible for the operational aspects of the ascent phase of the Space Shuttle orbital flight tests scheduled to begin in 1979.



Dr. Edward G. Gibson

Ed Gibson returns

Dr. Edward G. Gibson, science pilot on the 84-day Skylab 4 mission in 1973-74, rejoined JSC's Astronaut Office on March 7.

Gibson, 40, resigned from NASA in December 1974 to become a senior staff scientist at Aerospace Corp., El Segundo, Calif. In 1976, he joined ERNO, Bremen, West Germany, prime contractor for Spacelab which will fly aboard the Space Shuttle.

He will be assigned to the Mission Specialist Office, headed by Astronaut Joseph P. Kerwin, MD. Gibson's Ph.D. degree is in engineering and physics.



Ronald E. Evans

Ron Evans leaves NASA

Astronaut Ronald E. Evans left NASA March 15 to become a coal industry executive.

Evans, 43, command module

President discusses Shuttle during call-in radio program

During a two-hour "Ask the President" radio broadcast March 5, President Jimmy Carter heard questions from 42 private citizens, including one who asked about the Space Shuttle program.

Following are excerpts from the conversation between Carter, moderator Walter Cronkite and questioner Phyllis Dupere of

Rehoboth, Mass.:

Dupere: *I'm a recent graduate from college and I majored in science and my question is about the space shuttle program. If you had the opportunity to go on one of the missions, would you go and why or why not?*

Carter: Oh, I see, Miss Dupere, I'm probably too old to do that. I

don't know if I could start now and train and get ready to go. When I was a younger person I was always very eager to do the most advanced and sometimes quite dangerous things. As soon as our country had the idea of having atomic power to propel submarines I was one of the first ones to volunteer and was one of the very earliest submarine officers to go into the atomic power program...

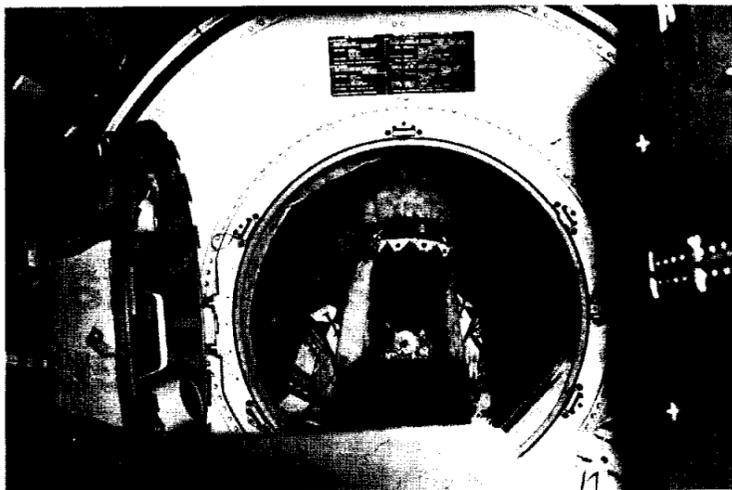
But I can't tell you that I'm ready to go on a space shuttle. I think I just don't have the time to get ready for it. I might say that my sons would like very much to do it, but not me.

Dupere: *Do you think your daughter would?*

Carter: I think perhaps she would. Yes. She's a very innovative young lady and is always trying for new things and I think she's competent to be a pilot in a space shuttle in the future or to be a member of Congress, or even to be President, yes, ma'am.

Dupere: *O.K., thank you. Goodbye.*

(Continued on page 3)



WITH AN EYE TO THE FUTURE — Though his heart may be rooted deeply in the past of his Cherokee ancestors, actor Iron Eyes Cody is concerned about the future of his native land and its people. He may be best known for his anti-litter television commercials. Here, as if through the looking glass, the headressed Cody peers into the ASTP docking module in Bldg. 2 while on a recent visit to JSC.

Solar heat collectors to power MCC humidity-control system

A solar heating system for year-round humidity control of computer areas in the JSC's Mission Control Center is scheduled for completion later this year.

The approximately 1.5 billion BTU's estimated annual energy savings of this system is enough to provide heat and hot water for at least 16 average size four-bedroom homes in the Houston area.

The \$309,000 project provides for solar collector panels to be mounted on the roof of the Mission Control Center. The area of the panels will be approximately 5,600 square feet and they will face south with a 29 degree tilt to provide maximum exposure to the sun. The solar collectors will be set back from the edge of the Mission Control Center roof and will not be readily visible from the ground level.

NASA and the Energy Research and Development Administration are jointly funding the program. The goal is to stimulate the advancement of an industrial, commercial and professional capability for using solar energy in heating and cooling of residential and commercial buildings to reduce the demand on present fossil fuel supplies.

Most of the computer equipment in the Mission Control Center is in operation 24 hours a day, year-round. The solar heating system will provide at least a 30 percent savings in natural gas used for reheating the building air after it is chilled for humidity control.

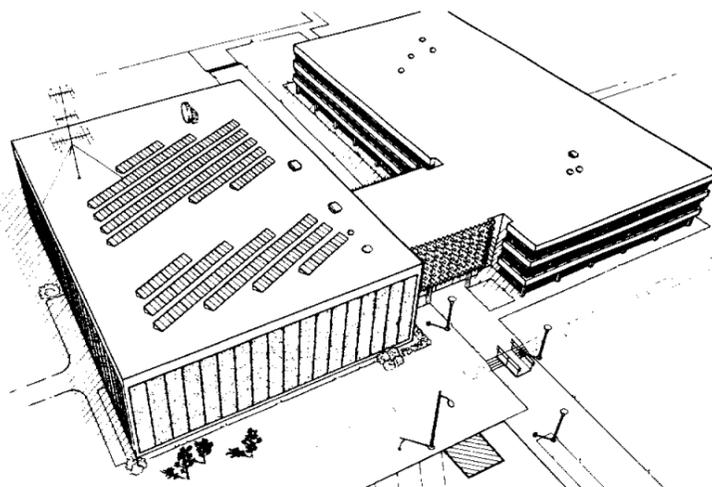
On cloudy days and at night, the existing steam converter currently in use for Mission Control Center will provide the additional heat needed.

Final design of the solar collection system is scheduled for completion in mid-March. Modification to the present system to tie-in the

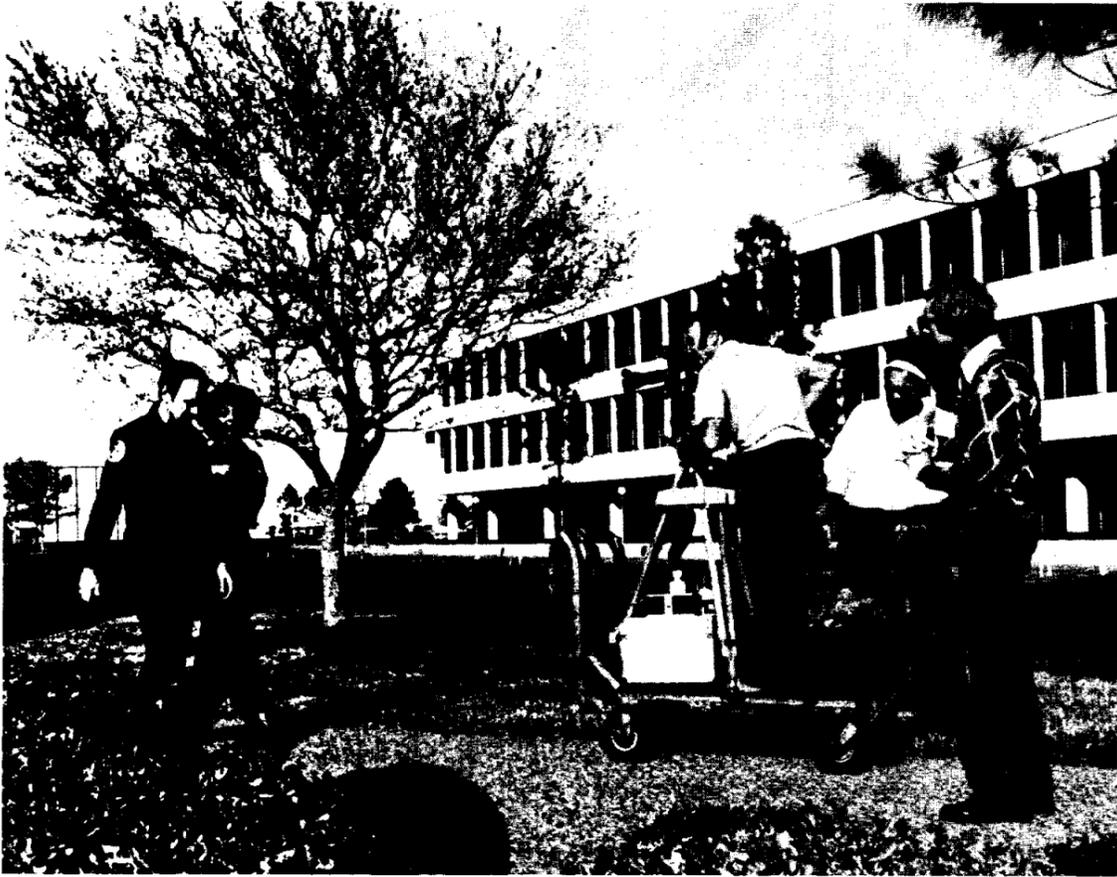
solar system will begin in May with installation of the solar collectors on the roof of the Mission Control Center in August and September. Activation of the system is scheduled for October.

This project is one of several scheduled for facilities at NASA centers in California, Florida, Virginia, and Alabama.

The role of government in the solar energy field is to stimulate potential users of the equipment and to assist industry with development and demonstration programs that will lead to the early, widespread use of this energy source.



Artist's concept of solar collectors on Bldg. 30



SKYLAB MEETS STAR TREK — Astronaut Alan Bean walks through the JSC grounds with actress Nichelle Nichols (Lt. Uhura of Star Trek) as a film crew records their stroll. It was all part of a short promotional film being made to aid

Nichols in recruiting minority candidates for the astronaut program. The actress is under contract with NASA to provide these services. The film crew is, l to r, Charlie Turner, John Hawsey and Dale Johnson.

Workshop scheduled for Women's Week

In observance of Federal Women's Week, March 28-April 1, a three-hour workshop on financial planning will be offered at JSC.

The workshop will be held April 1 from 8:45 a.m. to noon in the Bldg. 2 auditorium.

Topics to be covered include credit for women, will planning, separate and community property, overall personal and family plan-

ning and effects of new tax reform on gift, estate and income taxes.

Beginning at 1:30 p.m., two films will be shown on upward mobility and exploring some of the forces that influence learning new skills and overcoming old habit patterns.

All JSC and contractor employees are welcome. For more information, contact Josephine Jue, X-5491.

Mary Louise Icel picked top secretary

Mary Louise Icel, secretary to the director of Center Operations, has been chosen JSC Outstanding Secretary for February.

Icel was nominated for the award, which includes a plaque and \$100, by her boss, Joseph V. Piland.

In his two-page letter of recommendation, Piland said, "Mrs. Icel is an excellent secretary with broad and extensive experience. She continues to improve her capability through training and college study ... (and) has received many awards for her performance.

"Mrs. Icel is nominated for the Outstanding Secretary Award because of her sustained excellent individual performance, showing a high degree of integrity, judgment and responsibility. She has established and maintained a rapport with her peers and superiors and her skills are excellent."

Piland said he calls on Icel to

make frequent and varied contacts "for the purpose of making inquiries, obtaining status or issuing guidance or direction. On her own initiative, she has gained an in-depth understanding of directorate operations and their relationship with other center activities."



Mary Louise Icel

Organizations

Groups set joint meet

Current and future uses of electronic engine controls in the automotive industry will be discussed March 24 at the joint meeting of area chapters of the Association for Computing Machinery, Institute of Electrical & Electronics Engineers and Instrument Society of America.

Gerald B. Herzog, staff vice president, Technical Centers, RCA Laboratories, Princeton, N. J., will be guest speaker at the 11:30 a.m. luncheon meeting at the Gilruth Recreation Center.

Members and nonmembers are welcome. Cost of the meal is \$2.50. For reservations, call Peggy Russell or Andy Lindberg at X-3549 by noon March 22.

Membership roundup

The Houston Area Federal Business Association is conducting its annual membership drive. Any active or retired federal officer or employee based or living in the Houston area (105 mile radius) is eligible for membership, subject to approval by the board of directors.

The association provides benefits

such as special rates and discounts to its members by Houston area business establishments.

Annual dues are \$1 and further information may be obtained from Roy C. Aldridge, JSC's representative on the association's board of directors. Aldridge can be reached at mail code BE5 or X-5419.

AAS seeks tech papers

The American Astronautical Society (AAS) has issued a "call-for-papers" for its 23rd annual meeting. General theme of the conference is "The Industrialization of Space — Planning for the Profit at the High Frontier."

Set for Oct. 18-20 at the Airport Hilton Hotel in San Francisco, the conference will focus on commercial activities in space over the next decade.

Abstracts of 200-500 words, or requests for more information, should be sent for consideration before May 1 to Technical Program Chairman Paul L. Siegler, Earth/Space Inc., 4151 Middlefield Rd., Palo Alto, Calif. 94303; telephone: (415) 494-8339. Authors will be notified of acceptance by June 1, and final manuscripts will be due by Sept. 1.

Lab seeks additional volunteers

The Cardiopulmonary Laboratory can accommodate approximately 25 more women to undergo physical testing which will help to establish selection standards for women astronaut applicants.

About 100 Civil Service women from all age groups are already participating in the program. It involves closely monitored exercise on a computer-assisted treadmill and testing in the Lower Body Negative Pressure device. The tests take from one and one-half to two hours each, and are repeated at intervals of 3-6 months.

A number of measurements are taken during the tests to provide a comprehensive evaluation of the performance of the heart and blood vessels and evidence as to whether or not certain types of heart disease are present.

JSC women interested in participating in the program may contact Margaret Jackson at X-3518.

Setting it straight

In an article on the Black History Month observance (*Roundup*, March 4) the following statement was made, apparently as a paraphrase from the remarks of City Attorney Otis King:

"Unlike other ethnic groups, blacks were given no rights in the original Constitution."

King, in fact, did not single out blacks as the only ethnic group so excluded. His actual statement was:

"The basic rights enjoyed by persons in this new country (the United States) were spelled out in the Constitution. Blacks, however, were given no rights whatsoever by the original document."

Carter on Shuttle...

(Continued from page 1)

Cronkite: You know, Mr. President, with that shirtsleeve environment... holding out a little hope that some of us fellows may get a chance to go along.

Carter: I'm interested in that program by the way. I think this is going to be a much cheaper means by which we can perform our very valuable flights in space and still return the costly vehicle back to Earth. I'm very interested in that.

Cronkite: It's going to mean the utilization of space. We're getting past the exploration stage, I think, now.

Carter: We are using it now. And I think as you probably know, with space satellite photography we not only guarantee the security of our country, but we do a great deal of analysis of crop conditions, topographical mapping to see how far it is between places, highway planning, and this is a good way, too, by the way, from either high-flying

airplanes or space, to analyze waste of energy, to see where we are not insulating adequately, etc.

And, so for all those reasons, even things that are very common, like growing crops, or mining or building highways or cutting down on heat losses, we are already using space vehicles for those purposes.

JSC vending concession contract let

The NASA-JSC Exchange has completed negotiations resulting in contracts being awarded to Dick's Coffee Service and Rice Vending Inc. as authorized concessionaires permitted to provide drink and food vending services on site at JSC.

Changeover from the incumbent to the oncoming concessionaires is to be completed during March.

The Exchange solicits the cooperation and assistance of all center employees to assure the new concessionaires every opportunity to effectively provide this needed employee service. The Exchange operations manager welcomes suggestions and can be reached at mail code AW or X-5419.

Film series postponed

Because of scheduling problems, the March 22-24 Life Cycle Theory of Leadership noontime film series has been postponed until further notice.

ROUNDUP

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EAA ATTRACTIONS

TICKETS

The following tickets are available at the Bldg. 11 Exchange Store from 10 a.m.-2 p.m., Monday - Friday:

Houston Aeros - EAA discount gift coupons may be exchanged at the Summit box office for "live" tickets on the night of the game. A \$6.50 coupon gets you an \$8 ticket, \$5.50 gets a \$7 ticket and \$4 gets a \$5 ticket. Aeros play Phoenix, March 18; Calgary, March 25; Winnipeg, March 27; Cincinnati, April 1, and San Diego, April 5.

ABC Interstate Theaters - \$1.50 admission tickets now available.

Dean Goss Dinner Theater - Comedy production, *The Babysitter*, \$16/couple. Tickets available every night except Monday, Saturday.

Disney Magic Kingdom Club - Free membership cards. Also available is Disneyland passport, good any day through May, which allows unlimited use of all Disneyland

attractions. Adults, \$7.50; juniors, \$7; children, \$6.

Sea-Arama Marineworld - Tickets on sale, \$3.75 for adults, \$2.50 for children. Open until dusk year-round.

Marietta's Dinner Theater - Royal Coach Inn, Southwest Freeway. Tickets \$8/person good Tues/Weds/Thurs/Sun. Call Ms. Royal, 621-5957, tell her you're from JSC. Get ticket and pay at theater on night of play.

Astroworld - Reopens weekends March 12. Tickets available March 7 at \$6.95 for adults and children. That's a \$1 discount.

Six Flag - Open weekends beginning March 19. Adult and Children tickets, \$6.75 each.

JACK BENNY TENNIS

A limited number of tickets are available at the Bldg. 11 Exchange for the Jack Benny Memorial Tennis Classic to be held April 9-10 at Waldon on Lake Conroe.

All proceeds will be used to ben-

efit diabetes research through the American Diabetes Association and the Juvenile Diabetes Foundation. Daily admission tickets sell for \$5 for adults, \$3 for children.



REMEMBER THE EAA PICNIC?

Yes, Virginia, there will be a 1976 EAA Picnic, it's just coming during the wrong year.

Bad weather forced the cancellation of the picnic last fall and it has now been rescheduled for May 7 at the Gilruth Recreation Center. In the event the elements repeat themselves, a rain-out date has been set for May 21.

"Sadie Hawkins Day" will be the theme of the new picnic. Tickets should be available around April 1 at the Exchange Stores or from your EAA representative. General admission is \$1 and includes beer, soft drinks, cotton candy, popcorn and other goodies. For \$3, a barbecue dinner is thrown in.

There will be both men's and women's brackets.

EAA teams pay \$20, non-EAA teams pay \$35. Registration ends at 5:30 p.m. April 5 at the Gilruth Center.

DEFENSIVE DRIVING

Registration will be held March 21-22 in the Gilruth Recreation Center lobby for the next EAA-sponsored defensive driving courses.

The courses are scheduled for March 28 and 30 and March 29 and 31. Each course runs two nights 6-10 p.m., and costs \$10/person.

AERO CLUB

The Aero Club is making plans to conduct an 8-10 week basic ground school (leading to the private pilot rating) to be held evenings at the Gilruth Recreation Center.

Cost will be approximately \$30 plus materials. An information meeting will be held Wednesday, March 23, in Room 215 at the Rec Center. For information, call Jackie Bohannon, X-4161.

NEW DANCE CLASSES

Enrollment for JSC Ballroom Dance classes will be held April 6 at 6:45 p.m. and 8:15 p.m. at the Gilruth Center. EAA members, associate members and guests may join.

Cost is \$36/couple for 10 wks. Classes will be held every Wednesday under instruction of Rae & Bob Calvert. For information, call Billie Fairfax, X-3050.

ARTS & CRAFTS SHOW

Anyone interested in exhibiting or selling the product of their hobby should contact the Gilruth Center, X-4921, for more information.

Roundup Swap Shop

Swap Shop advertising is open to JSC federal and on-site contractor employees. Goods or services must be offered as advertised, without regard to race, religion, sex or national origin. Non-commercial personal ads should be 20 words or less, and include home telephone number. Typed or scribbled ad copy must be received by AP3/Roundup by Thursday of the week prior to publication.

CARS & TRUCKS

71 Ford Torino. 2-dr hdtop, good cond, pwr, air, ready to roll. \$850. 472-2837 or 944-5033.

73 Corvette Coupe. 4-spd, air, pwr, 48K mi. Eills, X-3048 or 686-1923.

75 Chevy Van. SWB-350 V8, 1/2 ton, auto, air, pwr steer, mags, travel scoop, portholes, paneled & insulated, burglar alarm. \$4,600. Girala, 921-5776 or 921-7212.

72 Pont Grand Prix SJ. Full pwr, incl seat, windows, locks, air, cruise, AM/FM stereo, honeycomb whls, silver. \$2,275. Craig, X-3511 or 488-0903.

71 Toyota Wagon. Air, radio, 2 dr, standard, good cond. 482-2020 after 6.

74 Mustang II. 3 dr, air, auto, 25 mpg, 29K mi, radio, xint cond. \$2,295. 944-3522.

71 Chevy Impala. 2 dr, blue, pwr, auto, air, radio, very good cond. \$1,000. 485-5322.

73 Toyota Landcruiser. Xint cond, 6 cyl, 4 WD, 8000 lb winch, locking hubs, tape player. Doug, X-5557 or 534-2226.

70 Buick Electra Limited. 4-dr hdtop, all pwr, good tires. Clean, runs good. \$1,200. Presswood, 479-1159.

72 Ford Gran Torino Brougham. 351-V8, all pwr, air, AM/FM stereo. \$1,475. Larsen, X-2581 or 334-3432.

56 T-Bird. White w/red & white interior, removable hdtop. 526-6734.

70 Mustang. Xint cond; new tires, battery, paint job; no rust. 302-V8, pwr, air. McCreary, 488-7636.

73 Monte Carlo. Air, pwr windows, AM/FM/tape stereo, xint cond. Hapton-stall, X-5449 or 554-3600.

67 Mustang. Loaded. \$1,295. Poin-dexter, 474-2203.

72 Toyota. 4 dr. \$750. Polindexter, 474-2203.

74 Alfa Romeo GTV. AM/FM stereo, air, like new. 334-1263 evngs.

74 VW Superbeetle. 33K mi, xint cond. \$1,650. 472-2118 after 5.

CYCLES

Honda CL-70. Good cond, '73 model. \$175. 554-2693 after 4:30.

Honda XR-75 & Honda 500-4. Curt, X-2646 or 488-0275 after 6.

10-spd 24" Schwinn bike. Very good cond. \$60. 472-5956 after 4:30 & wkends.

BOATS & PLANES

Boat, 1972 21' Reinell Model 2250, OMC outdrive. Trailer, full coast Gd equip, incl ship/shore. \$5,500. Czerwonky, 488-1358.

1975 Lone Star "Raldor" Bass Boat. 70 HP evinrude, drive-on trlr. \$3,500 or best offer. 473-6921 after 7:30.

Bass Boat 16' Falcon Tiger. 60 HP Evinrude, elec troll, pwr tilt, delux trlr. \$2,950. 333-4697.

Aircraft, 1/4 interest in 1962 Skyhawk. New paint & interior, full IFR

w/Narco avionics, vac & elec DGs & attitudes, 1720 TT, 500 SMOH. Located at LaPorte. \$3,000. Pruet, X-4491 or 487-4914 after 5.

PROPERTY & RENTALS

Beaut home in Lg City. 3-2-2, detached, 19X20 paneled den, all formals, fireplace, covered patio. Country lane, many trees. 544-2693 after 4:30.

For rent, Forest Bend, 2-1-1 patio townhouse. Refrige, dishwasher. \$290/mo. 334-4175.

For rent, Lake Livingston, Cape Royale, compl furn home, 3-2-1. Fishing, hunting, tennis, golf, etc. Reserve early. Wk/mo/yr rates. 488-4487.

Galveston West End. 2 bdrm By-the-Sea condo apt, full furn. \$180/wk off season, \$260/wk in season. Clements, 474-2622.

For rent, 3 bdrm, 2 bath house. Xint cond. Miramar, Seabrook. Avail Apr 15. Cabler, 479-3467 days.

For rent, trailer space on 1/4 acre. Well, septic & butane tanks, electricity. Alvin-Manvel area 20 mi from NASA. \$75/mo. Mary Burch, X-3734 or 331-1279.

MUSICAL INSTRUMENTS

Hammond organ Model 103. Xint cond, beaut woodwork, no scratches. 534-2226 after 4.

Classical guitar. Handmade in Spain, w/case. \$250. Gorman, X-4576.

STEREOS & CAMERAS

AM/FM MPX stereo receiver w/2 bkshef spkrs & headset, dual control panel. \$65. Mangieri, X-5107 or 488-5471.

Konica Auto S2 35mm camera. Auto-matic, f1.8 lens, 1/500 shutter, range-finder. \$60. Arnold, X-2703 or 481-2890 after 6.

Photographic equipment. Complete darkroom lab for color or B/W processing. Over \$1,600 value, will sell for less than half. All or part. McCreary, 488-7636.

Yashica Mat 124G w/telephoto lenses & case. Like new, \$125. Walker, X-6310 or 481-5661.

Konica Auto Hexanon lenses. 35mm f2.8, \$90. 135mm f3.2, \$60. Both like new. Pruet, X-4491 or 487-4914 after 5.

HOUSEHOLD ARTICLES

Double day bed corner group w/table, quilted slipcovers & matching foam backrests. Like new. \$125 or best offer. 944-3795.

Double dresser w/mirror & matching nitestand, all wood, \$65. Projection screen, 40X40, \$10. Compl 5-1/2gal aquarium setup, \$10. Lg chest, \$20. Williams, X-3347 or 477-2622.

Frigidaire washer. Runs but clunks. Easily fixable. \$35. Barnett, X-4735 or 482-1539.

School desks, metal/wood construction, separate chair, adjustable height. \$22. Grafe, 783-1694.

Portable Hoover clothes washer. Make offer. 334-4175.

MISCELLANEOUS

Reg (FDSB) English setter, male. 14 wks old. \$100. 585-3144 after 6.

Camper top for Luv, Datsun, etc. 1/2 ton PU. Used 6 mos. \$250. 333-3735.

'76 Nomad trailer, 26', avail May 25. \$4,200 firm. Hordinsky, X-4021.

.22-cal Marlin Glenfield bolt action rifle w/4X scope & 8 shot clip. \$30. Mangieri, X-5107 or 488-5471.

Akromaster control line airplane w/Fox .19 eng. never flown. \$30. Mangieri, X-5107 or 488-5471.

Tennis club membership to Bal Harbour. Make offer. Downs, X-4405 or 481-0440.

5 gal aquarium, compl w/lamp, filter, thermometer, pump, etc. Austin, 337-1160.

Tennis club membership, Bal Harbour Racquet Club. \$150 initiation, \$17/mo. Morrey, X-4091 or 488-5210.

Margay racing Go Kart. McCulloch eng, many spares. \$400. 333-2787.

Annual plant & pottery sale. Over 2000 pots, plants & other goodies. Very inexpensive. 18127 Hereford, Nassau Bay. Mar 24, 25, 26 all day.

Inexpensive sailing lessons on your boat by displaced NE coast sailor. Ken, X-4217 or 481-3946.

Two HR78-15 WW Firestone Town & Country steel belted tires. 7 ply, mud grip design, used 2000 mi. \$69. Millican, 488-7004.

Ladies stationary exercise bike. Xint cond. \$25. Pittman, X-5026 or 488-1243.

WANTED

Electric typewriter w/pica type. Diaz, X-3734.

Car seat for 1-year-old. 334-4175.

Need carpool riders from Parkview Estates or vicinity Pasadena. Sullivan, X-2171 or Mason, X-3916.

Baby sitter needed, 4 hrs/day in my home. Clear Lake Forest. Li, 474-4359 mornings or after 5.

Person wanted to join carpool of 4 leaving Meyerland area 7:15 for shift 8-4:30. Carl, X-4871, or Cathey, X-2151.

King or queen size hide-a-bed sofa w/cotton mattress in very good cond. 472-5956 after 4:30 or wkends.

Need riders for carpool from W Loop, SW Fwy, Bellaire area. 8-4:30. McLaughlan, X-3771 or 661-2974.

Volunteer firefighters needed. Men and women residents of Clear Lake City. Rewarding community service. Will be trained & equipped. 488-0023 anytime.

SOFTBALL CHANGES

Dates provided to the Roundup and published March 4 regarding JSC softball leagues were in error. Team captains should note that:

Sign-up for all leagues is March 28-April 1.

Men's leagues start the week of April 18.

Women's leagues start the week of April 25.

The EAA will sponsor a pre-season softball tournament April 14-16 (or April 21-23 if rain).

1	2	3	4	5	6	7	8
9				10			
11				12			
			13				
14	15	16			17	18	19
20				21			
22				23			

JSC crossword

(See answers page 4)

ACROSS

- Biblical murder victim
- Molded, as iron
- Formed in Oct. 1958
- Woodwind instrument
- Interpret
- Data Analysis Lab (acronym)
- Life line
- About 4.6 billion years old
- Predecessor of 9 Across
- Ping _____
- Armstrong's was historical

DOWN

- Insect
- Rail
- NASA's Spacelab partner
- Follows separation of 747/Orbiter
- "Columbia" pilot
- Arab cloak
- Drunkard
- Golf peg
- Actor _____ Mineo
- Baseball referee (colloq.)
- Bovine utterance
- French for "good" or half a candy
- Feline
- One who excels
- Once around



NUTS TO YOU — Everyone knows squirrels are crazy about nuts, so maybe that's why they're always curious about photographers. Who but a nut would walk through swamps, forests, jungles or deserts just to take pictures. Actually, our brave photographer only had to trek into his back yard to get this interesting shot.

Wildland resource inventory to be conducted by satellite

NASA and the Department of the Interior have begun preliminary work on an experiment involving the remote sensing of wildland resources in the western United States.

Interior's Bureau of Land Management (BLM) and NASA's Johnson Space Center will share responsibilities for the cooperative experiment using Landsat satellite information to provide the BLM with an inventory of major streams, soil and vegetation types, drainage patterns, bodies of water and fire occurrence and hazards.

NASA will provide satellite data and sophisticated processing techniques to extract inventory information from the data. Most of the NASA share of the experiment will be done at JSC.

The experiment will concentrate first on a portion of southcentral Alaska east of Mount McKinley National Park. The area includes northern spruce and fir trees in a tundra ecology.

The second phase, if approved, will concentrate on an area in northwestern Arizona representing a desert ecology. The final phase of the experiment will cover an area of

southwestern Idaho representing the sagebrush and grassland regions of the intermountain west.

Each phase of the experiment will last about one year. At the completion of the experiment, now

expected to be late 1979, the partners expect to have developed an automated inventory system capable of providing extensive, timely information about BLM's land holdings.

European innovation to aid Shuttle users

In a novel twist to an old story, NASA stands to benefit from an industrial innovation. Spin-offs usually come from, rather than go to, the space agency.

This particular industrial spin-off is a European innovation establishing standards for electronic sub-assemblies used between computers and scientific hardware.

The standards, known as CAMAC, have been used in Europe for over six years and have resulted in tremendous cost savings for European university and industrial experimenters.

At JSC, equipment built to CAMAC standards has been used for six years in scientific experiments flown aboard high-altitude balloons. The CAMAC equipment has performed satisfactorily at great reductions in cost over previously-used custom-built electronic assemblies.

Cost savings are envisioned during the 1980 Shuttle era when experimenters from many different American universities and companies will share Shuttle Orbiter space with European experimenters.

The CAMAC equipment would provide data and control links between the Shuttle Orbiter computers and experiment hardware in the payload bay. Experimenters would be able to cut costs since major electronics sections would be assembled from a CAMAC sub-assembly pool.

Work begins on new home of Moonrocks

Construction for the JSC's new Lunar Curatorial Facility began Monday, March 14. The new facility will replace the presently crowded quarters in Building 31.

General contractor for the construction is Spaw-Glass Inc., of Houston. Construction is expected to be completed by September 1978. Construction budget is \$2.02 million.

A special feature of the new facility is a glass viewing area on the second floor so clean-room operations can be viewed from outside the clean area.

The new facility will be a 14,000-square-foot two-story addition to Building 31. It will provide clean, secure storage space, processing, experimental and simulation labs for the samples.

Contracts

Oxygen system contract let

Hamilton Standard Division of United Technologies Corp., Windsor Locks, Conn., has been awarded a contract by JSC for development and production of the Space Shuttle portable oxygen system.

The system consists of a face mask, rebreather loop, heat exchanger, oxygen bottle and recharge kit which can operate independently or connected to the Shuttle Orbiter's oxygen system.

Orbiter crew and passengers will use the portable system for emergency oxygen in case of cabin atmosphere contamination, for pre-breathing prior to spacewalks to denitrogenize crewmen's circulatory systems, for life support during rescue operations and for emergency oxygen after landing if the atmosphere around Orbiter is contaminated.

The cost-plus-fixed-fee contract is valued at \$2,752,000.

American Air to service 747

American Airlines Inc. Maintenance and Engineering Center, Tulsa, Okla., has signed a letter contract with JSC to maintain and provide operations support of the Boeing 747 Shuttle Carrier Aircraft "NASA 905."

American Airlines will perform the work primarily at the NASA Dryden Flight Research Center, Calif., where the aircraft serves to carry the first Space Shuttle Orbiter in atmospheric and glide-flight landing tests. The letter contract is for

initial value of \$200,000. The total estimated contract cost is \$806,000.

WSTF support award signed

JSC has awarded a contract to Lockheed Electronics Company Inc. Systems and Services Division for site support services at the center's White Sands Test Facility, Las Cruces, N. M.

Estimated amount of the cost-plus-award-fee contract is \$12 million, covering the third year of support services at White Sands. The total three-year value is estimated at \$24 million.

Ham Standard to build suits

The Johnson Space Center has signed a letter contract with Hamilton Standard Division of United Technologies Corp., Windsor Locks, Conn., for fabrication and field support of Space Shuttle crew space-suits.

Called the Extravehicular Mobility Unit (EMU), the system consists of a spacesuit with integrated life support backpack for astronaut spacewalks outside the Shuttle Orbiter's pressurized cabin. The spacesuit will be small, medium and large, upper and lower torso standardized sections instead of the individually custom-fitted suits in earlier manned space flight programs.

Hamilton Standard will provide equipment and spares for seven suits and supporting hardware, training, manpower and field sup-

port at JSC and other NASA centers.

The letter contract to Hamilton Standard is valued at \$2 million, and the estimated value of the final definitive contract is \$18.5 million.

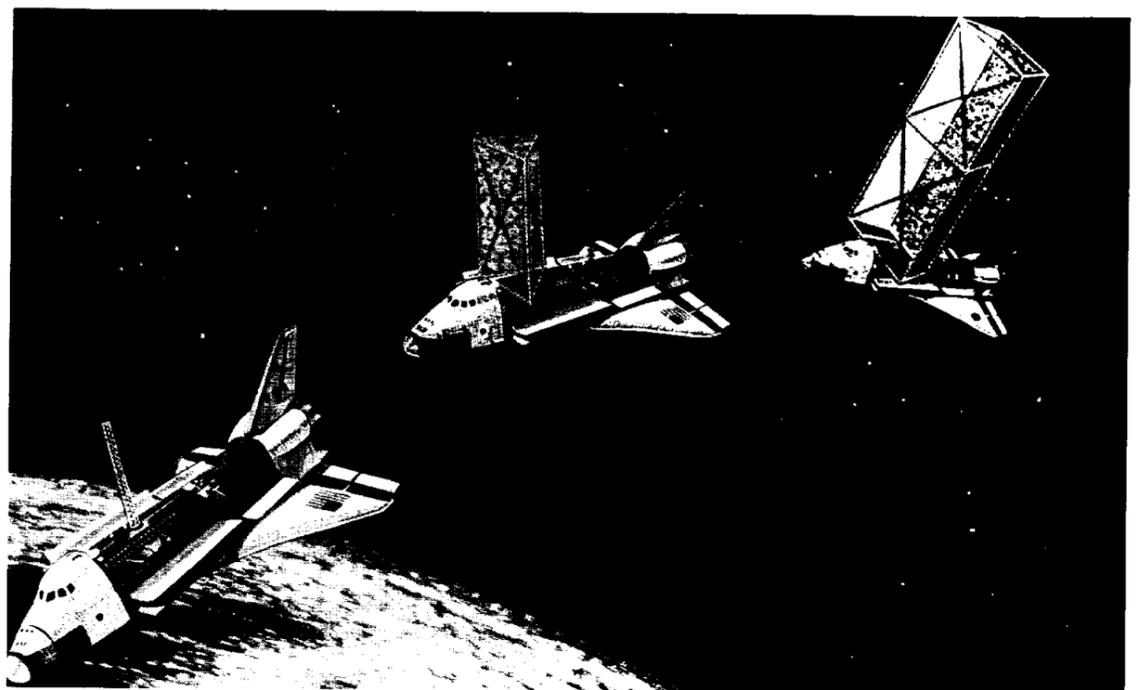
JSC crossword answers

(See puzzle page 3)

P	E	S	T	S	G	N	O	P
A	C	N	N	O	O	W		
L	A	C	I	L	B	U		
		L	A	D				
E		L	A	S	A	N	T	
E		O	B	O	A	N		
T		C	A	S	A	B	E	L



This program insignia was recently adopted by NASA for the Space Transportation System



ASSEMBLY IN SPACE — This artist's concept shows three necessary steps in the development of a fabrication and assembly facility in space: 1) producing structural members by an automated beam fabrication module in the Shuttle bay

2) fabrication plus limited erection and assembly and 3) erection and assembly of a large structure such as a 100-kilowatt solar power facility. A demonstration program could begin in 1980.